

Thermal Emission Non-Invasive Analyte Monitor

Abstract

An improved method and an improved instrument for analyte determination that uses infrared radiation naturally emitted by subject are disclosed. The method is based on Thermal Emission Spectroscopy (TES) whereby the spectral signal is measured in reference to a body's physiological and ambient parameters. The instrument that realizes the method incorporates temperature and humidity sensors. Ambient environmental parameters and subject parameters as disclosed allow normalization of spectrally specific analyte signal for greater precision and accuracy of analytes concentration determination. Such improvement leads to a universal calibration in, for example, non-invasive blood glucose measurements in human subjects.